ABSTRACT OF THE DISCLOSURE

An apparatus and method for switching data packet flows by assigning schedules to guaranteed delay and bandwidth traffic. Scheduled bandwidth is subtracted from the available bandwidth, and the remaining unscheduled bandwidth is available for standard "best-efforts" packet transmissions, or other guaranteed packet flows. Guaranteed bandwidth is assigned on a schedule basis, and packet flows are assigned schedules which are mutually acceptable to both transmitters and receivers. Flows transmit and expect to receive packets in accordance with their assigned schedules. Schedules are negotiated between packet transmitter applications and packet receiver applications. During scheduled periods, packets sent by the packet transmitter are directly and immediately forwarded to the assigned packet receiver. Other traffic destined for the receiver is placed in a delay queue, and other packets are not transmitted to the packet receiver during the assigned schedule, as long as the transmitter is still sending guaranteed packets.

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